WHAT IS CLAIMED IS:

1. A circuit for controlling power supplied to a load, the circuit comprising:

a controllable self-conducting semiconductor switch connected in-series with the load;

a first energy storage circuit connected in-series with the load, said first energy storage circuit comprising a first energy storage device and a first rectifier connected in-series, wherein a terminal of the first energy storage device is connected to a terminal of said self-conducting semiconductor switch;

a controllable auxiliary switch connected in-parallel with the first energy storage device;

a control circuit for the self-conducting semiconductor switch and said auxiliary switch, wherein said control circuit is operable to sense a voltage from the first energy storage device and close and open said auxiliary switch, respectively, when the voltage from the first energy storage device exceeds a predetermined first value and falls below a predetermined second value.

2. A circuit as claimed in claim 1, wherein the first value and the second value are different.

3. A circuit as claimed in claim 1, wherein said control circuit switches said controllable auxiliary switch only when said self-conducting semiconductor switch is opened.

4. A circuit as claimed in claim 1, further comprising:

correction means for correcting an ON time of said self-conducting semiconductor switch as a function of the switch state of said auxiliary switch.

5. A circuit as claimed in claim 4, wherein the ON time of the self-conducting semiconductor switch is increased when said auxiliary switch is opened.

6. A circuit as claimed in claim 1, wherein said control circuit comprises a monitoring device for monitoring the voltage on the first energy storage device and for generating a switching signal for closing the self-conducting semiconductor switch when the voltage on the first energy storage device falls below a predetermined limit value when the auxiliary switch is opened.

7. A circuit as claimed in claim 1, wherein said self-conducting semiconductor switch is an SiC VJFET.

8. A circuit as claimed in claim 7, wherein the SiC VJFET is current limiting.

9. A circuit as claimed claim 1, wherein the first energy storage device is a capacitor.

10. A circuit as claimed in claim 9, wherein a resonant frequency of an oscillating circuit formed by an inductive component of the load and the capacitor is much lower than the lowest switching frequency of said self-conducting semiconductor switch.

11. A circuit as claimed in claim 1, further comprising a second energy storage circuit connected in-parallel with said auxiliary switch, said second energy storage circuit comprising a second energy storage device and a second rectifier connected in-series.

12. A circuit as claimed in claim 11, further comprising a third energy storage circuit connected in-parallel with the first rectifier and operable to generate a bipolar power supply voltage jointly with the second energy storage circuit.

13. A circuit as claimed in claim 1, further comprising a protective device operable to detect an electric current flowing through the self-conducting semiconductor switch and further operable to generate a control signal for opening the self-conducting semiconductor switch when the electric current exceeds a predetermined limit value.

14. A circuit as claimed in claim 13, wherein the protective device comprises a bistable flip-flop.